

REMARKS

Favorable reconsideration and allowance of the present invention in view of the foregoing amendments and following remarks are respectfully requested.

Currently, claims 1, 3-7, 9-15, 17-20, and 22-24 remain pending in the present application, including independent claims 1, 11, 15 and 23. In the Office Action, claims 11 and 23 were indicated as being allowed, while the remaining claims stand rejected in view of the prior art. In particular, claims 1 and 15 stand rejected in view of Peterson and Hotaling.

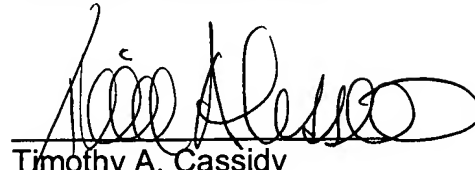
In response, claims 1 and 15 have now been amended to state that the film-forming material comprises an alginate. Applicant also submits herewith a Declaration providing comparative testing.

As stated in the Declaration, paper wrappers treated with an alginate composition having a solids content of at least 6% by weight and having a viscosity of less than about 500 cP when present in a 3% by weight solution at 25°C provide unexpected results when compared to paper wrappers treated with a similar composition made from the commercially available alginate product described in Hotaling. In particular, both compositions were applied to a paper wrapper and tested. The paper wrapper made according to the present invention reduced the ignition proclivity characteristics of the wrapper to the same extent as the comparative paper wrapper. The treated areas of the paper wrapper made according to the present invention, however, had a much higher permeability than the wrappers treated with the alginate composition disclosed in Hotaling. As described in the Declaration, minimizing permeability reduction minimizes any adverse impact the treated bands may have on a smoking article.

In view of the enclosed Declaration and in view of the foregoing amendments, Applicant submits that all of the claims that are currently pending are in complete condition for allowance. Favorable action, therefore, is respectfully requested. Should any issues remain after consideration of this amendment, however, then Examiner Walls is invited and encouraged to telephone the undersigned at her convenience.

4/30/04
Date

Respectfully submitted,



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PATENT

ATTORNEY DOCKET NO: SMD-125

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Thomas A. Kraker)	Examiner:	D. A. Walls
)		
Serial No: 10/055,027)	Art Unit:	1731
)		
Filed: January 23, 2002)	Deposit Acct. No:	04-1403
)		
Title: Smoking Articles With)	Confirmation No:	7502
Reduced Ignition Proclivity)		
Characteristics)		

Commissioner of Patents
P.O. Box 1450
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DECLARATION UNDER 37 C.F.R. 1.132

I, Thomas A. Kraker, do hereby declare as follows:

My home address is 11015 Pinehigh Drive, Alpharetta, Georgia 30022.

I have a Masters Degree in Paper Science and a Bachelor of Science in Chemical Engineering. I have been employed in the papermaking industry and specifically for the Assignee of record for the past seven years. I currently work for the Assignee of record as a Research Scientist.

I am the inventor of the claimed invention described and defined in the above-identified United States Patent Application.

The present invention, as defined in the claims, is directed to smoking articles and to paper wrappers for smoking articles. The paper wrapper provides the smoking article with reduced ignition proclivity characteristics.

Claim 1, for instance, is directed to a smoking article comprising a column of a smokable tobacco. A paper wrapper surrounds the column of the smokable tobacco. The paper wrapper includes discrete areas treated with a film-forming composition. The treated areas are separated by untreated areas. The film-forming composition applied to the paper wrapper comprises a film-forming material contained in a solution in an

amount sufficient for the solution to have a solids content of at least 6% by weight. The film-forming material has a viscosity of less than about 500 cP when present in a 3% by weight solution at 25°C. The film-forming solution comprises an alginate.

In the latest Office Action, claims 11 and 23 were indicated as being allowed, while the remaining claims were rejected in view of various prior art references. The references include U.S. Patent No. 5,878,753 to Peterson and U.S. Patent No. 5,820,998 to Hotaling, which are both owned by the Assignee of record. In the Office Action, the Examiner requested Applicant to provide comparative data.

In response, I recently conducted various tests to demonstrate the benefits and advantages of the present invention. In particular, tests were conducted to compare the performance of a paper wrapper made in accordance with the present invention comprising areas treated with an alginate composition having a solids content of at least 6% by weight. The alginate had a viscosity of less than 500 cP when present in a 3% by weight solution at 25°C. Specifically, the alginate used was KELGIN LB which is commercially available from the ISP Corporation. KELGIN LB alginate when present in a 3% by weight solution at 25°C has a viscosity of about 60 cP.

Substantially identical paper wrappers were also prepared that contained treated areas made from a commercially available alginate as described in U.S. Patent No. 5,820,998 to Hotaling. In particular, for comparative purposes, paper wrappers were also made that were treated with a film-forming solution containing an alginate sold under the tradename KELGIN LV. KELGIN LV has a viscosity of about 3000 cP when present in a 3% by weight solution at 25°C.

The film-forming compositions were applied to the paper wrappers in the form of circumferential bands. The base paper that was treated with the alginate solutions was the same grade paper in each of the tests. Specifically, the base paper wrapper was made from flax and contained a calcium carbonate filler in an amount of from about 28% to about 30% by weight. The base paper wrapper was treated with a citrate solution in an amount of about 0.6% by weight.

Four different print runs were completed to produce four different paper wrappers. Two of the paper wrappers were treated with the KELGIN LV solution while the remaining two paper wrappers were treated with the KELGIN LB solution. In the first comparative test, the paper wrapper was treated with the alginate solutions in a manner that created a higher Burn Mode Index. In this manner, paper wrappers were constructed that would deliberately fail in ignition proclivity tests. By constructing paper wrappers that would fail the ignition proclivity tests, better comparative results were capable of being obtained. These results are shown in Table 1.

During the second set of print runs, the alginate solutions were applied to the paper wrapper so as to have a lower Burn Mode Index. Consequently, these paper wrappers had a higher success rate in passing the ignition proclivity tests when

incorporated into a smoking article. The results of these tests are shown in Table 2 below.

The alginate compositions were both applied using an offset gravure printer. The alginate solutions were prepared so as to have approximately the same solution viscosity which allowed for the solutions to be printed on the wrappers. At the same solution viscosity, the KELGIN LV composition had a solids content of approximately 3%, while the KELGIN LB composition had a solids content of about 12%. Because the KELGIN LB composition had a higher solids content, the samples produced using the KELGIN LB composition had a greater add-on, even though a greater volume of KELGIN LV composition was applied to the paper wrappers.

After the paper wrappers were produced, the paper wrappers were tested for permeability within the treated areas and within the untreated areas. Twenty permeability tests were conducted and averaged.

The Burn Mode Index as described in the currently pending application was also tested on the papers within the treated areas. In particular, the wrappers were tested five times and the results were averaged.

After the paper wrappers were constructed, the paper wrappers were incorporated into smoking articles and the smoking articles were tested for ignition proclivity. The particular test used was ASTM Test No. E2187-026. During this test, the lit smoking articles were placed on ten layers of filter paper. If the smoking article self-extinguished, the smoking article passed the test. If the smoking article burned all the way to its end, however, the smoking article failed the test.

Smoking articles were also lit and allowed to freeburn without being in contact with any adjacent surface. If the smoking article burned all the way to its end during the freeburn test, the smoking article was indicated as passing the test.

The following results were obtained:

TABLE NO. 1 – Results of Paper Wrappers Having a Higher Burn Mode Index

	KELGIN LV Solution		KELGIN LB Solution	
	Within Band	Base Paper	Within Band	Base Paper
Average Permeability (Coresta Units)	4.9	49.0	17.2	55.2
Average Burn Mode Index	3.6	15.6	3.3	14.0

% Add-On	2.4%		4.2%	
% Passed Ignition Proclivity Test	28%		28%	
% Passed Freeburn Test	100%		100%	

TABLE NO. 2 – Results of Paper Wrappers Having a Lower Burn Mode Index

	KELGIN LV Solution		KELGIN LB Solution	
	Within Band	Base Paper	Within Band	Base Paper
Average Permeability (Coresta Units)	4.2	45.5	14.1	55.5
Average Burn Mode Index	2.3	14.1	2.2	16.0
% Add-On	4.2%		8.6%	
% Passed Ignition Proclivity Test	90%		85%	
% Passed Freeburn Test	100%		90%	

As shown above, the paper wrappers treated with the KELGIN LB composition displayed various unexpected benefits and advantages. In particular, the above tests demonstrate that when compared to a similar paper wrapper treated with a KELGIN LV composition, paper wrappers treated with the KELGIN LB composition exhibited higher permeabilities within the treated areas while demonstrating equivalent reduced ignition proclivity properties. Thus, the KELGIN LB composition was capable of producing reduced ignition proclivity properties and characteristics without having to reduce the permeability of the treated areas of the wrapper to the same extent as the paper wrappers treated with the KELGIN LV composition. Consequently, the KELGIN LB composition can be used to reduce ignition proclivity characteristics of a smoking article

while allowing the treated areas of the wrapper to have a relatively high permeability . By maintaining the treated areas with a relatively high permeability, a smoker is less likely to notice the existence of the treated areas and the treated areas are less likely to impact the taste and other properties of the smoking article.

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under §1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the above-captioned application or any patent issuing thereon.

Respectfully submitted,

22 April, 2004
Date

Thomas A. Kraker
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